



Legislative Report March 6, 2014

DNR Pollinator Habitat Legislation

Bob Welsh, Wildlife Habitat Program Manager



DNR management benefits pollinators

Public Lands are unevenly distributed throughout the state

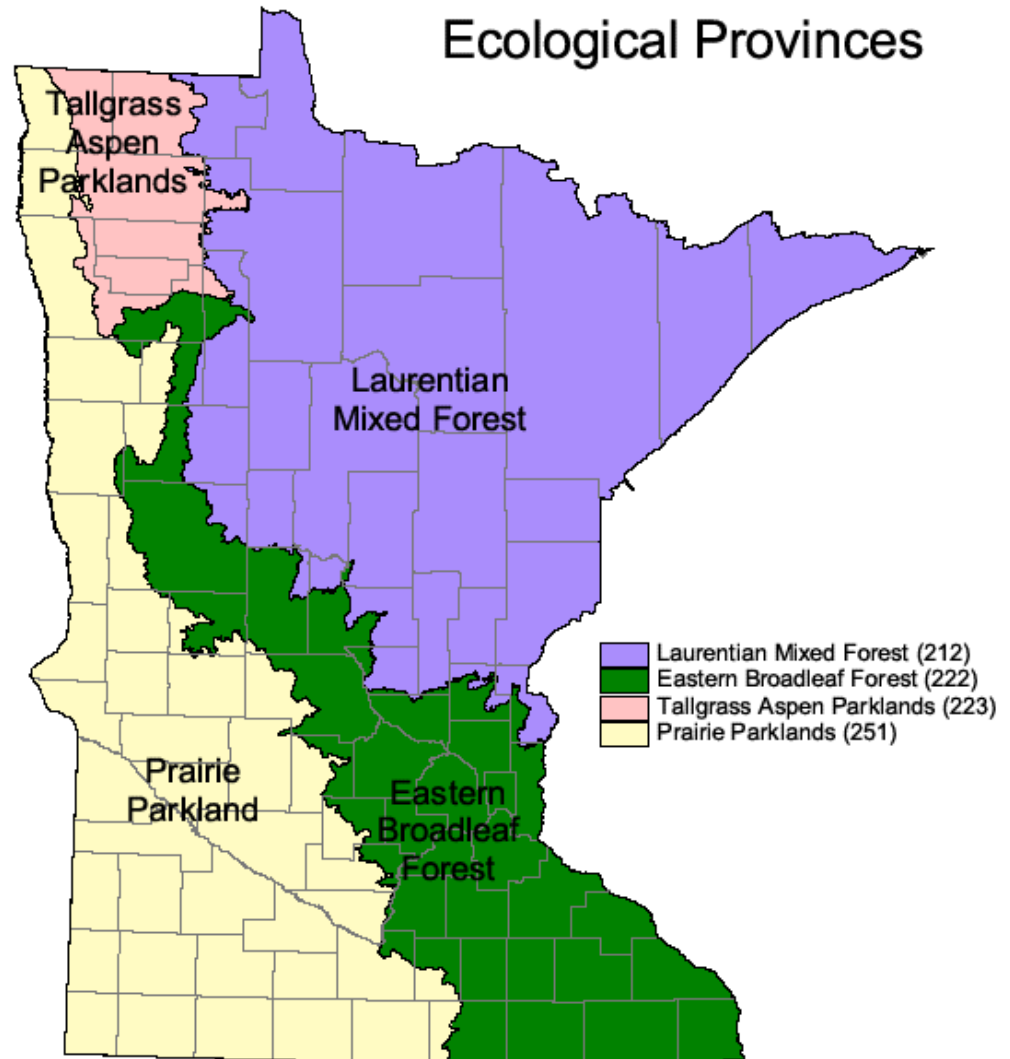
Total: 25% Public Ownership

Laurentian Mixed Forest: 52%

Aspen Parklands: 18%

Broadleaf Forest: 5%

Prairie: >2%





New Legislation

M.S. 84.973 POLLINATOR HABITAT PROGRAM

**Minnesota Session
Law 2013, Chapter 114
HF no. 976, Article 4,
Sect. 12**

New Legislation

Minnesota Statutes, Chapter 84.973

POLLINATOR HABITAT PROGRAM

(a) The commissioner shall develop **best management practices** and **habitat restoration** guidelines for pollinator habitat enhancement. Best management practices and guidelines developed under this section must be used for all habitat enhancement or restoration of **lands under the commissioner's control**.

(b) Prairie restorations conducted on **state lands or with state funds** must include an **appropriate diversity of native species** selected to provide habitat for pollinators throughout the growing season.



BMPs & Guidelines

Restoration Guidelines



- Restoration guided by native plant communities
- Establish a species list by plant communities to aid managers

Native Plant Community Pollinator Restoration Table

UPn23– Northern Mesic Prairie — Species Frequency & Cover

species cover
***** >50%
**** 25-50%
*** 10-25%
** 5-10%
* <5%



UPn23– Northern Mesic Prairie — Species Frequency & Cover

species data based on 110 vegetation plots

Forbs, Ferns & Fern Allies	species frequency in NPC (%)	species cover (when present)	pollinator floral value	pollinator nest value	blooming period	notes	principal pollen vector
Northern bedstraw (<i>Galium boreale</i>)	85	••	Low (?)		Early-mid	masses of tiny flowers	animal (?)
Purple prairie clover (<i>Desmodium illinoense</i>)	85	•	Mod		Mid		animal
Canada goldenrod (<i>Solidago canadensis</i>)	85	••	High		Mid-Late		animal
Heath aster (<i>Aster ericoides</i>)	84	••	Mod		Mid-Late		animal
Stiff goldenrod (<i>Solidago rigida</i>)	82	•	Mod		Mid-Late		animal
Maxillaria's sunflower (<i>Helianthus maximiliani</i>)	75	•	Mod	Yes		Old stems for hollow stem nesting bees	animal
Heart-leaved alexanders (<i>Zizia aurea</i>)	75	•	Mod		Early		animal
Black-eyed Susan (<i>Rudbeckia hirta</i>)	74	••	Mod		Mid		animal
Tall meadow-rue (<i>Thalictrum dasycarpum</i>)	71	••		Yes (?)		Old stems for hollow stem nesting bees (?)	wind
Smooth blue aster (<i>Aster laevis</i>)	62	•	Mod		Mid-Late		animal
Common strawberry (<i>Fragaria virginiana</i>)	57	•	Mod		Early		animal
White carnation (<i>Zigadenus elegans</i>)	56	•	Mod		Early-mid	Principally flies; moths at night?	animal
Virginia mountain mint (<i>Pycnanthemum virginicum</i>)	55	•	High		Mid-Late		animal
Gray goldenrod (<i>Solidago nemoralis</i>)	51	•	Mod		Late		animal
Golden alexanders (<i>Zizia aurea</i>)	51	•	Mod		Early		animal
Harebell (<i>Campanula rotundifolia</i>)	48	•	Mod		Mid		animal
Barbed toadflax (<i>Comandra umbellata</i>)	47	•	Mod		Early-Mid		animal
Wild bergamot (<i>Monarda fistulosa</i>)	44	•	High		Mid		animal
Podman's thistle (<i>Cirsium podmanii</i>)	43	•	High	Yes	Mid	Old stems for hollow stem nesting bees	animal
Hoary puccoon (<i>Lithospermum canescens</i>)	41	•	Mod		Early		animal
White aster-like goldenrod (<i>Solidago ptarmicoides</i>)	40	•	Mod		Mid-Late		animal
Stiff sunflower (<i>Helianthus pauciflorus</i>)	35	•	Mod	Yes	Mid-Late	Old stems for hollow stem nesting bees	animal
Northern plains blazing star (<i>Liatris spicata</i>)	35	•	High	Yes	Late	Old stems for hollow stem nesting bees	animal
Rough blazing star (<i>Liatris aspera</i>)	34	•	High	Yes	Late	Old stems for hollow stem nesting bees	animal
Climbing dogbane (<i>Apocynum androsaemum</i>)	34	•	Mod	Yes	Mid		animal
Glare or Sandwort sunflower (<i>Helianthus giganteus</i> or <i>H. grosseserratus</i>)	33	••	Mod	Yes	Mid-Late	Old stems for hollow stem nesting bees	animal
Pale-spined lobelia (<i>Lobelia spicata</i>)	32	•	Mod		Mid		animal
Glaucous false dandelion (<i>Agoseris glauca</i>)	32	•	Mod (?)		Early-mid		animal
Wood lily (<i>Lilium philadelphicum</i>)	32	•	Mod	Yes (?)	Mid	A butterfly flower; pollinated by large butterflies	animal
Prairie loosestrife (<i>Lythrum quadrifidum</i>)	31	•	Mod (?)		Mid	Provides pollen; specialist bees harvest an oil	animal
Yellow (<i>Achillea millefolium</i>)	31	•	Low (?)		Early-mid to Mid-Late	masses of very small heads	animal
Prairie wild onion (<i>Allium canadense</i>)	31	•	Mod		Mid-Late		animal
Wild licorice (<i>Glycyrrhiza lepidota</i>)	30	••	Mod		Early-Mid		animal
Golden or false golden ragwort (<i>Senecio aureus</i> or <i>S. pseudoreus</i>)	29	•	Mod (?)		Early		animal
Silverleaf scurvy (<i>Pedicularis argophytum</i>)	29	•	Mod		Mid		animal
Smooth radish-root (<i>Franseria racemosa</i>)	29	•	High		Mid		animal
Long-headed thimbleweed (<i>Anemone cylindrica</i>)	28	•	?		Early-Mid		?
Grass-leaved goldenrod (<i>Euthamia graminifolia</i>)	28	•	Mod		Mid-Late		animal
Wood betony (<i>Pedicularis canadensis</i>)	25	•	High		Early	Bumblebee flower	animal
Indian paintbrush (<i>Castilleja coccinea</i>)	25	•	Mod		Early-Mid	Hummingbird flower in forested part of MN, aphix moth in prairie	animal
Prairie phlox (<i>Phlox pilosa</i>)	24	•	Mod		Early-Mid	Not north of Norman & Mahanomen counties	animal
White prairie clover (<i>Desmodium illinoense</i>)	22	•	Mod		Mid		animal
Marsh vetching (<i>Lathyrus palustris</i>)	22	•	Mod		Early-Mid		animal
White sage (<i>Artemisia ludoviciana</i>)	20	•					wind (?)
Great blazing star (<i>Liatris pycnostachya</i>)	20	••	High		Mid	Uncommon north of Polk Co.	
Grasses & Sedges							
Big bluestem (<i>Andropogon gerardi</i>)	97	••••					wind
Prairie dropseed (<i>Sporobolus heterolepis</i>)	69	•••		Yes		Bunchgrass habit allows bare soil exposure for soil nesting bees and wasps	wind
Indian grass (<i>Sorghastrum nutans</i>)	64	•••					wind
Little bluestem (<i>Schizachyrium scoparium</i>)	62	•••		Yes		Bunchgrass habit allows bare soil exposure for soil nesting bees and wasps	wind
Prairie cordgrass (<i>Spartina pectinata</i>)	54	••					wind
Slender wheatgrass (<i>Elymus fasciculatus</i>)	53	•					wind
Mat muhly grass (<i>Muhlenbergia richardsonii</i>)	52	•••					wind
Junegrass (<i>Koeleria pyramidata</i>)	51	•				Low stature, semi-bunch habit favorable for ground nesting bees	wind
Kalm's brome (<i>Bromus kalmii</i>)	41	•					wind
Switchgrass (<i>Panicum virgatum</i>)	38	••					wind
Clustered muhly grass (<i>Muhlenbergia glomerata</i>)	38	••					wind
Porcupine grass (<i>Stipa spartea</i>)	35	••		Yes		Bunchgrass habit allows bare soil exposure for soil nesting bees and wasps	wind
Rigid sedge (<i>Carex lasiocarpa</i>)	34	•					wind
Tufted hair grass (<i>Deschampsia cespitosa</i>)	29	••		Yes (?)		Bunchgrass habit allows bare soil exposure for soil nesting bees and wasps?	wind
Narrow reed grass (<i>Calamagrostis stricta</i>)	25	••					wind
Leiberg's panic grass (<i>Panicum leibergii</i>)	24	••					wind
Half-shrubs							
Prairie rose (<i>Rosa arkansana</i>)	48	•	Mod		Mid		animal
Fragrant false indigo (<i>Amorpha nana</i>)	28	•	High		Mid		animal
Leadplant (<i>Amorpha canescens</i>)	23	••	High		Mid		animal
Shrubs							
Bebb's willow (<i>Salix bebbiana</i>)	28	••	High		Early		animal (and wind?)
Shrubby cinquefoil (<i>Potentilla fruticosa</i>)	21	••	High (?)		Mid		animal
Tree Seedlings or Saplings (<6ft)							
Quaking aspen (<i>Populus tremuloides</i>)	17	•••					wind

Best Management Practices

Rx Burning



- Refugia
- Smaller units
- Rotating burns
- Skips
- Extend intervals

Mowing/Haying



- Refugia
- After mid-Sep
- Spot mow
- Partner with Road Authorities

Grazing



- Refugia
- Limit duration
- Create a range of stubble height
- “Mix it up”

Best Management Practices (cont.)

Pesticide Use



- Refugia
- Practice IPM
- Target species and chemical
- Control Inv spp.

Forest Management

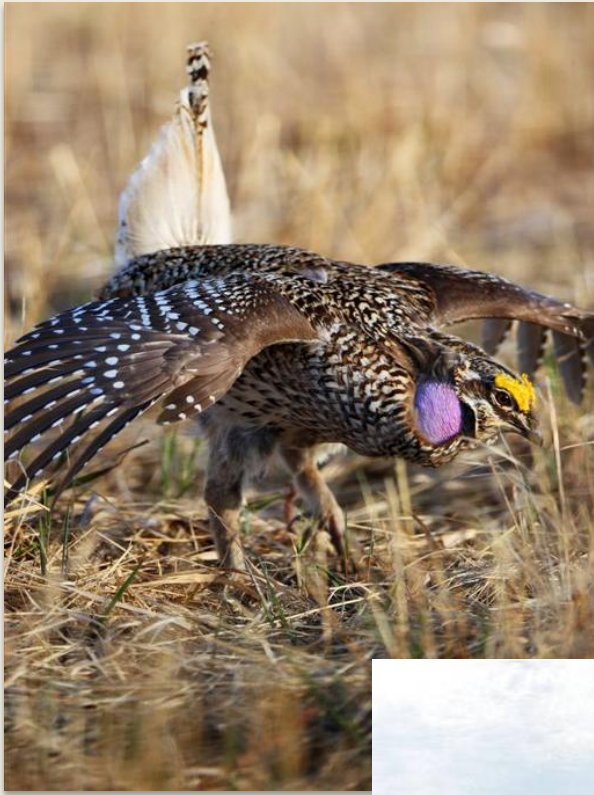


- Refugia
- Avoid spring
- Retain dead
- Diversify site and landscape

Farming



- Stress IPM
- Considering Federal standards
- Plant during calm
- Buffer zones



Activities that benefit
pollinators will
complement other
goals.

“stacking benefits”



Current Progress



- Draft BMPs & Guidelines. *complete*
- Review: Out for comment. *complete*
- Revisions to incorporate comments. *in process*
- Implementation. *coming growing season*

Comments Received From

University of Minnesota

Audubon Society

Xerces Society

Great River Greening

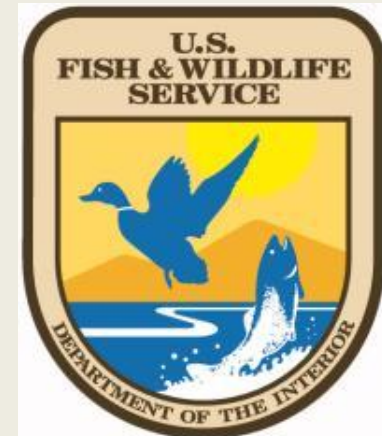
MN Department of Agriculture

U.S. Fish and Wildlife

Private citizens

DNR Forestry, MBS, Wildlife, Fisheries, SNA,

Nongame, Parks & Trails





Thank You!